

**Thomas P. DiNapoli**  
State Comptroller



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City Comptroller



# **Metropolitan Transportation Authority New York City Transit**

**Subway Service Diversions for Maintenance  
and Capital Projects**

**2010-S-34**

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THOMAS P. DiNAPOLI  
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JOHN C. LIU  
NEW YORK CITY COMPTROLLER

Mr. Jay Walder  
Chairman and Chief Executive Officer  
Metropolitan Transportation Authority  
347 Madison Avenue  
New York, NY 10017

Dear Mr. Walder:

Both the Office of the State Comptroller and the Office of the City Comptroller are committed to helping State and City agencies and public authorities manage government resources efficiently and effectively and, by so doing, providing accountability for tax dollars spent to support government operations. Fiscal oversight is accomplished, in part, through audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit of *Subway Service Diversions for Maintenance and Capital Projects*. This audit was performed pursuant to the State Comptroller's authority under Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law and the City Comptroller's audit responsibility set forth in Chapter 5, Section 93 of the New York City Charter.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

*Office of the State Comptroller  
Division of State Government Accountability*

*Office of the City Comptroller  
Bureau of Audit*

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## EXECUTIVE SUMMARY

### Audit Objectives

Our audit objectives were to determine (1) whether subway service diversions are effectively managed by the Metropolitan Transportation Authority (MTA) – New York City Transit (Transit) and (2) whether the riding public is adequately informed of service diversions.

### Audit Results – Summary

A “service diversion” takes place when Transit must close all or a part of a subway line for capital projects or maintenance. For the period January 1, 2009, through July 14, 2010, Transit records show 3,332 service diversions were underway in various phases. Service diversions, while necessary, can be an inconvenience to riders and can have an adverse economic impact on businesses.

Moreover, the frequency and duration of Transit’s service diversions are increasing due to projects necessary to restore and modernize an aging subway system. Between 2008 and 2010 the number of weekend diversions rose from 47 to 74, and the number of diversions lasting for at least one month increased from 7 to 57. For example, independent reports show that the Number 7 subway line connecting Manhattan with many neighborhoods between Flushing and Long Island City had extended weekend service diversions almost every year since 2003, including nine consecutive weekend diversions between January and March 2010.

We found that Transit has a number of policies and procedures for managing and controlling subway diversions. However, we also found that more needs to be done. In particular, diversion costs were not adequately monitored, daily work on diversions often started late and ended early, and the public was not adequately informed about diversions. These conditions add substantially to project cost, further inconvenience riders, and cause economic hardship to affected businesses. Most notably, we found that:

Transit does not always prepare adequate supporting documentation to evidence that it is monitoring diversion costs on an ongoing basis. As a result, it could not justify why diversion costs exceed budgets. We noted that four contracts had related diversion costs budgeted at a combined \$56.5 million. However, as of January 4, 2011, the diversion costs for these contracts were estimated to cost \$83.1 million and, therefore, were already \$26.6 million over budget.

Work on service diversions often starts late and ends early. For example, a service diversion may be scheduled to start at 12:01 a.m. on a Saturday and to end at 5:00 a.m. on a Monday, while work actually commenced at 1:22 a.m. on Saturday and ended at 2:30 a.m. on Monday. We examined General Order Worksheets for 29 diversions and noted that work started late for 28 and ended early for 21. The unproductive time associated with this ranged from 10 to 27 percent of scheduled time for each diversion. Assuming that the lower range of 10 percent unproductive time was associated with all of the 3,332 diversions underway between January 1, 2009, and July 14, 2010, and assuming this inefficiency was eliminated, we estimate that \$10.5 million of unproductive cost would have been avoided.

Transit officials informed us that newspaper ads had been created for only 2 of 50 diversions that we sampled, and neither of these 2 pertained to high-ridership areas. Also, contrary to federal regulations, we did not see any signs posted in a language other than English when we visited 39 subway stations with diversion projects underway. (See Exhibit A.) While Transit has a subway ridership of about 2.3 billion annually, its budget for diversion advertisements was only about \$228,000. We questioned whether this was an adequate budget amount to effectively communicate about the volume of diversions managed by Transit.

Our report contains five recommendations for improving the management of diversions. MTA and Transit officials stated that they have taken steps to implement necessary changes.

This report, dated July 29, 2011, is available on the State Comptroller's website at: <http://www.osc.state.ny.us> and is also available on the City Comptroller's website at: <http://comptroller.nyc.gov>.

Add or update your mailing list address by contacting us at: (518) 474-3271 or  
Office of the State Comptroller  
Division of State Government Accountability  
110 State Street  
Albany, NY 12236

## Introduction

### **Background**

The Metropolitan Transportation Authority (MTA) is a public benefit corporation providing transportation services in and around the New York City metropolitan area. The MTA is governed by a Board of Directors, whose 17 members are nominated by the Governor and confirmed by the State Senate. The MTA includes seven constituent agencies, one of which is New York City Transit (Transit), which operates New York City's subway system and a majority of its buses.

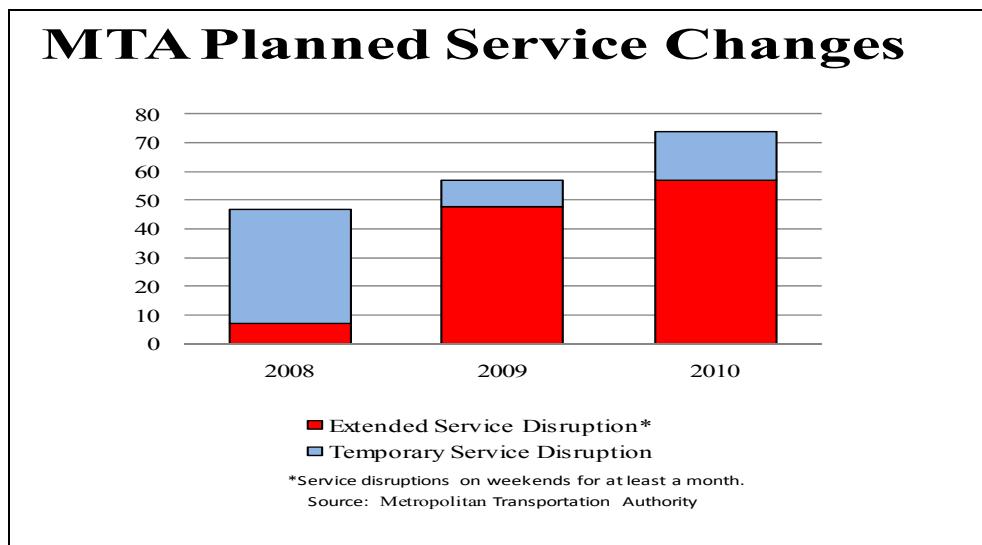
Transit is responsible for completing capital projects and maintaining subway tracks to ensure that trains run safely. To do this work, it is sometimes necessary to temporarily close down either all or a portion of a subway line (called a diversion). When possible, Transit diverts subway service to another subway line or uses shuttle buses to take the public from one subway station to another. For the period January 1, 2009, to July 14, 2010, there were 3,332 service diversions that had a service plan.

Transit is responsible for planning and implementing subway service diversions. This includes shutting off power for the affected subway tracks, determining how long the tracks need to be out of service, ensuring workers get to the tracks in a timely manner, restoring power and train service when the work is done, providing alternate service, and alerting the riding public about the diversion.

To alert the riding public, Transit officials told us they use a variety of media such as newspaper advertisements and posters to hang at the affected subway stations. In addition, the MTA has identified subway stations where compliance with the Americans with Disabilities Act (ADA) would benefit the most people. These stations have features such as elevators and large printed signs that improve accessibility for the disabled.

The MTA reported that the frequency and duration of certain subway service diversions have increased, mostly due to construction projects intended to restore and modernize an aging system. As shown in Figure 1, between 2008 and 2010, the number of weekend service diversions rose from 47 to 74, an increase of 57 percent. In addition, the number that lasted for at least one month increased from 7 to 57.

**Figure 1**



#### **Audit Scope and Methodology**

The objectives of our audit were to determine (1) whether subway service diversions are effectively managed by Transit and (2) whether the riding public is adequately informed of service diversions. Our audit covered the period January 1, 2009, to January 4, 2011.

To accomplish our objectives, we interviewed key Transit officials from various departments to gain an understanding of their policies and procedures. We selected a random sample of 50 of the 3,332 diversions that were in Transit's database system that progressed past the preparation of a service plan. We reviewed diversion requests and matched them with their respective general orders and general order worksheets. We also visited 39 subway stations to review whether signage notifying the public about diversions was sufficient. (See Exhibit A)

We conducted our performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In addition to being the State Auditor, the State Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and

approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

<b>Authority</b>	This audit was performed pursuant to the State Comptroller's authority under Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law and the City Comptroller's audit responsibility set forth in Chapter 5, Section 93 of the New York City Charter.
<b>Reporting Requirements</b>	A draft copy of this report was provided to MTA officials for their review and comment. Their comments were considered in preparing this final report and are included in their entirety at the end of this report. State and City Comptrollers' comments to their response are also attached at the end of this report.
<b>Contributors to the Report</b>	Within 90 days of the final release of this report, as required by Section 170 of the Executive Law, the Chairman of the Metropolitan Transportation Authority shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

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## Audit Findings and Recommendations

### Managing Diversions

When maintenance and capital work needs to be done on subway tracks, trains are diverted from their regular route so workers can safely access the tracks. Diversions require coordination among multiple divisions within Transit and months of planning. The effective management of each diversion includes controlling costs, setting priorities, adhering to work schedules, combining diversions to minimize costs and the number of diversions, and coordinating with other constituent agencies to provide bus service. While Transit has many effective policies and practices in place to manage subway service diversions, we found that significant improvement opportunities exist relating to budgeting, scheduling, and managing other aspects of diversions. We also noted that extended service diversions have reportedly caused businesses located along these subway lines to suffer economic losses.

With so many diversions during tight fiscal times, Transit must ensure that diversion costs stay within budget and that adequate, documented justification is available to support spending in excess of budgeted amounts. While Transit has a system in place to show how much was budgeted and spent on diversions, Transit does not always monitor spending throughout a diversion to ensure that excess spending is supported. Consequently, management lacks adequate assurance that spending on diversions has been properly managed. We reviewed 15 diversions with a total budgeted amount of \$141.7 million that were part of 12 contracts. Eight of the 12 were completed or were estimated to be completed within budget. However, as of January 4, 2011, the diversion cost related to the remaining four contracts was estimated at \$83.1 million—\$26.6 million over the budget of \$56.5 million.

Each diversion has an associated General Order that states the start and end times for the work. General Order Worksheets are used by Transit to record the actual times for each step in a service diversion. We requested General Order Worksheets for 50 diversions to examine requirements, including time to start and time to end work. Transit was able to provide worksheets for only 29 of the General Orders we requested. From the worksheets for these 29 General Orders, we determined that work commenced late for 28 and ended early for 21. For example, a service diversion may be scheduled to start at 12:01 a.m. on a Saturday and to end at 5:00 a.m. on a Monday, while work actually commenced at 1:22 a.m. on Saturday and ended at 2:30 a.m. on Monday. The loss of productive work time ranged from 10 to 27 percent of the time scheduled for the diversions. Also, we noted seven instances where work was completed

several hours early, including one instance when work was finished about 10 hours early, but trains were not put back into service. Using only the lower range of unproductive time (10 percent) and assuming that this estimate of unproductive time applied to each of the 3,332 diversions completed or underway between January 1, 2009, and July 14, 2010, we estimate that Transit would have avoided about \$10.5 million of unproductive cost by ensuring that work on diversions starts and ends on time. In addition, when diversion work starts late, additional diversions may be necessary in the future, thus increasing overall costs and the extent of inconvenience to the ridership.

Moreover, inefficiency in the management and scheduling of service diversions increases financial difficulties for businesses located along the subway lines. While Transit generally plans construction and maintenance work for late nights and weekends to minimize impacts on daily commuters, businesses that rely on weekend or nighttime pedestrian traffic, particularly in the outer boroughs where there may be limited access to public transportation alternatives, report that they experience declines in business when the subways are not running.

For example, independent reports show that the number 7 subway line, which connects Manhattan with many neighborhoods between Flushing and Long Island City, had extended weekend service disruptions almost every year since 2003.\* During nine consecutive weekend disruptions between January and March 2010, some businesses in Long Island City reported that profits had declined by 30 percent. Similarly, diversions in service between Manhattan and Flushing, Queens, disrupted the connections to Chinatown in Lower Manhattan, which in turn affected families and businesses with ties in both communities.

Buses are sometimes used to transport the riding public when diversion work is being done. Six of our sampled diversions required shuttle bus operations for the riding public. Transit indicated that subway ridership estimates were used to determine bus deployment for subway service diversions. However, Transit was not able to document how ridership estimates were used for deciding how many buses to put into operation or for how long. In fact, Transit was able to provide us with ridership estimates for only one of the six shuttle bus operations used for our sample of diversions. This estimate was six years old. Further, when we observed shuttle buses for a diversion on the 2/3 subway line at the 96 Street and Broadway subway station, we noted that, as soon as one bus left, another bus would pull up. Each bus had only about five passengers,

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\*. Mark Bulliett and Angela Montefinise, "Squeals Over No. 7 Shutdown," *New York Post*, February 18, 2007; and Daniel Edward Rosen, "Service Cut to 7 Subway Line Slashes Business for Long Island City Merchants," *Daily News*, February 3, 2010.

with a few more boarding along the entire bus route. At least two-thirds of each bus remained unoccupied throughout the bus route.

Transit officials said they do not deem it necessary to recalculate ridership estimates even though ridership data fluctuates from year to year. However, an overestimate of the number of buses to be deployed can lead to higher, excessive costs; while an underestimate can greatly inconvenience the public.

**Recommendations**

1. Monitor actual expenditures for service diversions and document the justification and supporting analysis for any spending over budgeted amounts.

(MTA-Transit officials replied to our draft report that the recommendation has merit. However, their accounting system is not currently set up to support a monitoring structure which compares budgeted to actual expenditures for service diversions. They added that they recognize the need for greater accountability per work occasion and have implemented a system for capturing diversion charges for projects with major weekend diversions. Transit is in the process of revising budget estimation and cost control procedures and reports to better evaluate TA labor charges.)

2. Ensure that daily scheduled start and end times for service diversions are adhered to by assigned staff, and commence subway service as soon as possible after diversions are completed.

(MTA-Transit officials agree with the recommendation and efforts are underway to fully automate the diversion planning and implementation process which will yield timely reports on the actual versus planned start and end times of specific service diversions. This information and other planned actions will improve work window productivity including completing some track preparatory work prior to service diversion planned start times. Transit is also exploring the use of earlier nighttime service diversion work which could deliver significant increases in underground work productivity with manageable customer impacts.)

3. Implement a methodology for using current ridership data and other appropriate factors to determine bus deployment for transporting riders during a subway diversion.

(MTA-Transit officials replied that they are obtaining new and revised ridership data to support the deployment of buses and are currently working on a plan to reduce the cost of diversion shuttle buses by 10 percent.)

## **Informing the Public**

When subway lines are diverted, it is crucial that the riding public be given advance notification. This way, they have adequate time to make alternate travel arrangements. When the public does not have adequate notice of a diversion, it can cause significant inconveniences, especially for the disabled. To properly inform the public about diversions, Transit officials told us they use a variety of media including the Internet, signage in stations and on subway cars, and newspaper advertisements. We found that Transit keeps diversion information up-to-date on its Internet site. However, Transit is not using other notification media in a consistent and effective manner to adequately inform the public about diversions. Further, we found Transit was not adhering to an internal memorandum regarding compliance with Title VI federal regulations related to the posting of diversion signs for the disabled and non-English-speaking riders.

Transit does not have official written policies or procedures for informing the public except for newspaper advertisements, which are required to be run for all diversions. Transit officials did provide us with guidelines they said they follow for public notification. The guidelines included the sizes of posters and location specifications for placing posters in stations (e.g., posters that are 17" x 23" are placed in certain areas of the stations; 11" x 17" posters are placed on platform columns and in the windows of subway cars). In addition, federal law requires that posters be translated into multiple languages, and that signage be posted in elevators at ADA stations. (See Exhibit A for ridership at stations where signage was not adequate.)

Transit officials told us that newspaper ads were created for only 2 of our 50 sampled diversions (Fulton Street Station and World Trade Center-E line), since their budget limits the amount of print ads they can actually run. However, neither of the two diversions with newspaper ads were in high ridership areas such as Grand Central (146,366 average weekday ridership), Times Square (189,162 average weekday ridership), and 14<sup>th</sup> Street (105,952 average weekday ridership), where diversions also took place.

Transit officials also told us they generally try to hang posters and signage at least seven days prior to the diversion. They said there are a certain number of signs they hang at street level, on platforms, and in train cars. Between June 15, 2010, and July 29, 2010, we visited 39 subway stations affected by 10 diversions and found that most of these guidelines pertaining to signage were not followed. (See Exhibit A.) For example:

- We visited 10 subway stations along the 1 and 2 subway lines where a diversion was scheduled, and found only one sign was posted in each station. There were no signs posted at the street level entrances, in train cars, or on the platform level for this diversion.
- We did not see any signs at the 39 stations that were in any language other than English. This means that many people may not be able to understand that subway service they rely upon will be halted for certain hours.
- Of the 39 stations we visited, 16 were ADA stations. We found that only 2 of 13 checked had signs in the elevators. Further, we accompanied a Transit official to observe how the posters are displayed. At the 233<sup>rd</sup> Street Station, we asked whether a sign should be posted on the elevators and the official said yes, but did not do so when we passed the elevator.
- While Transit officials said that they hang 50 signs on each platform, we could not count more than 20 at any of the stations we visited.
- Many of the signs that were posted were put up three days in advance, not seven.

Transit officials cited costs as the main reason they have not run advertisements for all diversions and have not translated posters to other languages. No reason was provided for posting fewer posters or not having required signs at ADA stations. They said their budget of \$228,000 limits what they can do and they have to decide the best use of their budgeted funds. We question whether Transit's budget is sufficient to alert millions of subway riders to diversions. In contrast, we note that the Long Island Rail Road paid \$315,853 in 2009 and \$742,432 in 2010 for advertisements to notify riders of diversions, even though ridership is only about 81.9 million annually compared with Transit's subway ridership of 2.3 billion.

While most New Yorkers are aware that track and maintenance work is required to keep the subway system properly functioning, the public has a need to be kept informed of this work in a timely manner. Transit needs to re-evaluate its advertising budget to ensure the riding public is aware of service changes due to diversions.

**Recommendations** 4. Adhere to federal law and Transit procedures related to communicating with the public regarding diversions.

(MTA-Transit officials replied to our report that they have written policy guidelines and adhere to Title VI requirements regarding the translation of materials into other languages. They added that the guidelines are approved by the MTA Office of Civil Rights and are

submitted to the federal government every year to ensure compliance with this federal law.)

**Auditor's Comments:** While MTA has a document "Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines." on its intranet page, this is not the information we were provided for determining compliance with Title VI regarding service changes. During our audit we received a memo issued on March 12, 2010 by Transit Marketing which indicates that printed materials regarding service changes are produced in appropriate languages other than English so as to communicate effectively to the diverse population of the City of New York. The memorandum states that service plans are created that consider demographics and translation needs, and recommend the language(s) and translation services required to convey the service change information. In addition, we were told that the signage should be placed in elevators, and we noted that signs were in place for only 2 of the 13 elevators that we checked. We also noted that on July 7, 2011, the sign notifying riders of a service change on the number 2 and 5 trains contained information about persons with wheelchair needs. However, the same notice in Spanish made no reference to persons who need wheelchairs.

5. Re-evaluate the budget amount for alerting the riding public about planned service changes due to diversions.

(MTA-Transit officials replied that they review Marketing and Service Information's budget yearly. They added that the division will continue to request additional funds for service diversion advertising. In addition to posters and newspaper advertisements, MTA NYC Transit has a dedicated staff that continually updates the Planned Service Changes and subway Service Status on the MTA website.)

## Exhibit A

Date of Observation	Station	Signage in Non-English Language	Ridership	Customer Information Center	Sign on Column?	Street Level Signs?	Elevator Signage at ADA Station?
06/15/10	14th Street - L Line	No	19,881	Yes	No	No	No
	Myrtle Wyckoff	No	3,062	Yes	No	No	No
	Canarsie-Rockaway Pkwy	No	2,269	No	No	No	No
	Dekalb Ave	No	1,855	Yes	No	No	N/A
	Bedford Avenue	No	3,750	Yes	No	No	N/A
06/24/10	Park Place	No		No	No	No	N/A
	Chambers Street	No	53,045	Yes	No	No	NR
	14th Street - 7th Ave	No	48,429	No	No	No	N/A
	23rd Street	No	14,076	Yes	No	No	N/A
	Penn Station	No	92,583	Yes	No	No	NR
	42nd St- Times Sq. IRT Line	No	192,408	Yes	Yes	No	NR
07/15/10	96th Street	No	39,335	No	No	Yes	N/A
	103rd Street	No	1,601	Yes	No	Yes	N/A
	110th Street	No	1,033	Yes	No	Yes	N/A
	116th Street	No	2,462	Yes	No	No	N/A
	125th Street	No	1,549	Yes	No	No	N/A
	137th Street	No	3,867	Yes	No	No	N/A
07/22/10	Metropolitan Avenue	No	936	No	Yes	No	N/A
	Church Avenue	No	160	Yes	Yes	No	No
	Bedford-Nostrand Ave.	No	97	Yes	Yes	No	N/A
	LIC- Court Square	No	367	Yes	Yes	No	N/A
07/23/10	Times Square 42nd St. Q Line	No	74,505	No	No	No	No
	49th Street	No	11,131	No	No	No	No
	57th Street - 7th Ave.	No	11,276	No	No	No	N/A
07/23/10	Spring Street	No	2,865	Yes	No	No	N/A
	23rd Street	No	5,158	Yes	No	No	N/A
	50th Street	No	5,357	Yes	No	No	N/A
	Broadway - Nassau	No	23,174	Yes	No	No	N/A
07/27/10	Jay Street	No	484	Yes	No	Yes	N/A
	Hoyt - Schermerhorn	No	64	Yes	Yes	No	N/A
	Franklin Avenue	No	88	Yes	Yes	Yes	No
	Utica Avenue	No	567	Yes	Yes	Yes	Yes
07/27/10	Vernon Blvd- Jackson Ave.	No	117	Yes	Yes	No	N/A
	Hunters Point Avenue	No	56	Yes	Yes	No	N/A
07/27/10	Brooklyn Bridge	No	443	Yes	No	No	No
	Canal Street	No	713	Yes	No	No	No
07/27/10	14th Street- Union Sq. Lex.	No	4,106	Yes	No	No	No
7/28/10 and 7/29/10	36th Street	No	301	Yes	Yes	No	N/A
	23rd Street- Ely	No	546	No	Yes	Yes	N/A
	Lexington Ave- 53rd St.	No	2,407	No	Yes	Yes	Yes
	5th Ave- 53rd St.	No	144	No	Yes	Yes	N/A
	West 4th Street	No	4,588	No	Yes	No	No
	Yes	0		30	15	9	2
	No	42*		12	27	33	11
							26
							3

N/A = Not Applicable

NR - Not Reviewed

\* To arrive at the 39 stations, 14th Street and Times Square stations were only counted once.

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## Agency Comments

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212 878-7030 Fax

**Jay H. Walder**  
Chairman and Chief Executive Officer



**Metropolitan Transportation Authority**

State of New York

July 8, 2011

Ms. Carmen Maldonado  
Audit Director  
The Office of the State Comptroller  
123 William Street – 21<sup>st</sup> Floor  
New York, New York 10038

**Re: Report #2010-S-34 - MTA New York City Transit Subway Services Diversions for Maintenance and Capital Projects**

Dear Ms. Maldonado:

This is in reply to your letter requesting a response to the above-referenced draft audit report.

I have attached for your information the comments of Mr. Thomas F. Prendergast, President, MTA New York City Transit, which address this report.

Sincerely,

*Informed for*  
Michael J. Fucilli  
MTA Auditor General

Attachment

*The agencies of the MTA*

MTA New York City Transit  
MTA Long Island Rail Road

MTA Long Island Bus  
MTA Metro-North Railroad

MTA Bridges and Tunnels  
MTA Capital Construction

MTA Bus Company

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New York, NY 10004-2207  
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Thomas F. Prendergast  
President



July 6 2011

Ms. Carmen Maldonado  
Audit Director  
Office of the State Comptroller  
Division of State Government Accountability  
123 William Street - 21<sup>st</sup> Floor  
New York, NY 10038

Re: NYS Draft of Final Audit Report (2010-S-34)

Dear Ms. Maldonado:

We have reviewed the New York State Comptroller's Draft Audit Report (2010-S-34) regarding the use of subway service diversions for maintenance and capital projects filed on May 19, 2011. The audit examines the processes by which MTA NYCT manages service diversions and informs the riding public of these diversions to enable construction and maintenance activities on a 24/7 operating railroad. This letter responds to some of the audit findings and recommendations.

#### Audit Results

#### Summary on Managing Diversions

The auditors noted that four of the contracts examined had a combined diversion budget of \$56.5 million, and stated in their findings that: "*as of January 4, 2011 the diversion cost related to the four contracts was estimated at \$83.1 million - \$26.6 million over the budget of \$56.5 million.*"

\*  
**Comment 1**

The audit's sample of four contracts was used to substantiate the finding that NYCT does not adequately manage diversion costs; however, the following has to be noted:

- 1) This finding is based on a comparison of the combined diversion budget of \$56.5 million to the estimated total TA Labor costs of \$83.1 million. The total TA Labor costs include those for support activities other than diversions, such as flagmen, access and protection, work trains and inspection of completed work prior to acceptance.
- 2) TA Labor costs can also increase when an additional work order (AWO) is added to the contract because of field conditions or other considerations.

MTA New York City Transit is an agency of the Metropolitan Transportation Authority, State of New York

**\* See State and City Comptrollers' Comments, page 29.**

The auditors also noted that: "*Transit would have avoided about \$10.5 million of unproductive cost by ensuring that work on diversions starts and ends on time.*"

- NYCT agrees that there is some inherent inefficiency in the diversion implementation process. However, through a coordinated planning process, NYCT looks for ways to keep unproductive time to a minimum. In order to ensure that the contractor personnel are provided with a safe working environment, a series of activities must be performed at the start of a diversion before workers are allowed to begin work. Some of these activities, such as removing the electric power, can be time consuming and require the coordination of remote units and personnel at the work location. At the end of the diversion, tracks must be restored for scheduled rush hour service and NYCT approaches this activity conservatively, with the objective to safely resume regular passenger service without delays or impacts to customers.

#### Recommendations

***1. Monitor budget to actual expenditures for service diversions and document the justification and supporting analysis for any spending over the budgeted amounts.***

- NYCT agrees that this recommendation has merit. However, our accounting system is not currently set up to support this type of budget monitoring structure. Comparisons of budgeted to actual expenditures have historically been compiled by project rather than by service diversion.
- NYCT recognizes the need for greater accountability per work occasion. A process that has already been implemented is the creation of weekend TA Labor Job numbers to capture diversion charges for projects with major weekend diversions.
- In addition, NYCT is in the process of revising budget estimation and cost control procedures and reports to better evaluate TA Labor charges.

***2. Ensure that daily scheduled start and end times for service diversions are adhered to by assigned staff and commence subway service as soon as possible after diversions are completed.***

- NYCT agrees with the recommendation. Efforts are underway to fully automate the diversion planning and implementation process, which will

yield timely reports on the actual versus planned start and end times of specific service diversions.

- This data will provide information necessary to ensure that the work window is maximized. A pilot started in June 2011 with implementation scheduled for October 2011. The fully automated diversion planning and implementation system will provide key data for a comprehensive evaluation of communication between the Rail Control Center and worksites, particularly worksites in tunnels, by the first quarter of 2012.
- NYCT is pursuing additional steps to improve work window productivity including completing some track preparatory work prior to service diversion planned start times. Also, the introduction of the new signal/switch lever blocks which are planned for use by fall 2011 will reduce the number of preparatory steps required in some areas of the system.
- NYCT is also exploring the use of earlier night-time service diversion starts, which could deliver significant increases in underground work productivity with manageable customer impacts.

***3. Implement a methodology for using current ridership data and other appropriate factors to determine bus deployment for transporting riders during a subway diversion.***

- NYCT agrees with the recommendation. New and revised ridership data is being prepared to support the deployment of buses, which replace subways during diversions.
- NYCT is currently working on a plan to reduce the cost of diversion shuttle buses by 10%. NYCT will also undertake other initiatives that will reduce the number of buses assigned to service diversions, eliminate shuttle buses where redundancies exist with bus or subway lines, and run short-turn buses where there is lower ridership.

**Summary on Informing the Public**

**Signage**

NYC Transit has modified its approach to diversion signage since the conclusion of the audit observations. We use four different types of 11 x 17 signs as follows:

- Column signs give specific information for passengers using a particular station (e.g. No E trains at this station take the A or C instead, or F trains

stop at the express track). These signs are typically posted at the platform level. They are also posted in transfer corridors and at the base of stairs going up to the platform to redirect passengers, as necessary.

- Overview signs describe the entire service diversion. They often include a map and are placed on station platforms preceding a service diversion, to inform passengers about major work that may affect their travel. Overview signs are created for service diversions that are particularly complicated or high impact. These include shuttle bus operations and diversions which interrupt train service between boroughs.
- On Train signs give a text-only description of the service diversion. These signs are posted inside train cars of the affected lines. Like overview signs, on train signs are created only for complicated and/or high impact diversions.
- Street Level signs warn passengers when there is no service in one or more directions at a particular station.

Additionally, 17 x 23 signs are used to help passengers find their way during shuttle bus and other complicated service diversions. These signs direct passengers from the platform to the shuttle bus stop. They are also used to direct passengers from one station to another nearby station when it is necessary to have passengers transfer between stations at street level.

NYCT also posts the "Directory," which is a list of all the service diversions occurring every week. The Directory is posted at every station and is split into weekday and weekend service diversions. The weekday listing is updated every Friday. The weekend service diversion list is put up every Wednesday and taken down the following Monday. NYCT policy is to post the Directory in the unpaid area of the station's control area. Where there is not enough space for the Directory in the unpaid area, the Directory is posted in the paid area.

#### Newspaper Ads and Sign Posting Schedule

The auditors noted that newspaper ads were not created for diversions in high volume stations like Grand Central and Times Square.

Newspaper ads are generated based on high impact or complicated diversions and are not location specific. As a result of the flexibility and the variety of service options at large station complexes, service diversions never require complete closure. Service diversions that involve large station complexes like Grand

Central and Times Square are usually smaller impact diversions, such as express trains running local or local trains running express.

NYCT's Marketing Division has determined that advertisements posted three days in advance of the work are appropriate for most service diversions. NYCT does not post more than 7 days in advance in most instances in order to avoid confusion.

#### Recommendations

***4. Adhere to federal law and Transit procedures related to communicating with the public regarding diversions.***

- NYC Transit adheres to Title VI requirements regarding the translation of materials into other languages.
- NYC Transit has written policy guidelines, which have been approved by the MTA Office of Civil Rights.
- Upon request and during routine reviews and audits, NYC Transit's Marketing Division submits samples of work produced as evidence of our compliance.

***5. Reevaluate the amount budgeted for alerting the riding public about planned service changes due to diversions.***

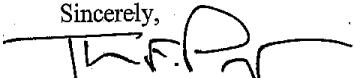
- Marketing and Service Information's budget is reviewed yearly. The division will continue to request additional funds for service diversion advertising.
- In addition to posters and newspaper advertisements, MTA NYC Transit has a dedicated staff that continually updates the *Planned Service Changes* and subway *Service Status* on the MTA website.

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This concludes our comments on NYS Controller's Audit Report. We will continue referring to the audit findings and recommendations while improving our diversion planning and implementation process and intend to continue the ongoing initiatives discussed above to more effectively manage subway diversions and improve our communications with the riding public.

Thank you again for the opportunity to respond to the draft audit report.

Sincerely,



Thomas F. Prendergast  
President

cc: C. Bianco

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## **State and City Comptrollers' Comments**

1. We acknowledge that our findings are based on exceptions that we noted for four of twelve (33 percent) sampled service diversion contracts. We believe the exceptions are sufficient to fully support our recommendation for improved monitoring of service diversion costs. The additional information provided by MTA-Transit officials in the response to the draft audit report shows the complexity of the cost monitoring for service diversions, but does not change our overall conclusions.
2. We appreciate and agree with concerns that some unproductive time is necessary to ensure worker safety. In this regard, we reiterate that we estimate that the unproductive time associated with diversions ranges from 10 percent to 27 percent of total time scheduled for diversions. In calculating our estimate that \$10.5 million of costs could be avoided through better management of the workday start time and end time for diversions, we assumed elimination of only the low range (10 percent) of unproductive time. Accordingly, we believe an ample amount of unproductive time would still remain to address worker safety.
3. MTA Marketing provided the criteria for determining when newspaper ads are required. If they have changed since we completed our audit, Marketing should formally revise them and ensure that they are followed for notifying the public about service diversions.